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PATENT & TRADEMARK OFFICE

7913Z

APPLICANT

Donald R. Huffman, et al

FILING DATE

September 10, 1990

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U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
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SCAK	AR	Williams, Close packing of spheres, J. Chem. Phys. 87(7), October 1, 1987 pages 4206-4211
	AS	Ruzinski, et al. C ₆₀ (g) AND C ₇₀ (g): A COMPUTATIONAL STUDY OF THE PRESSURE AND TEMPERATURE DEPENDENCE OF THEIR POPULATIONS, Carbon Vol. 25, No. 6, pp. 747-750 1987
	AT	Larsson, et al., OPTICAL SPECTRUM OF THE ICOSAHEDRAL C ₆₀ - "FOLLENE-60", Chemical Physical Letters, Volume 137, number 6, July 3, 1987, pp. 501-503

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Shashidhik

DATE CONSIDERED

8/17/92

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LIST OF PRIOR ART CITED BY APPLICANT



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501C	AR	Kovacevic, et al. On the Hybridization in Some Archimedean Carbon Clusters, International Journal of Quantum Chemistry Symposium 21, (1987) pp. 589-593
		Rosen, et al., Optical Spectrum of the Icosahedral C ₆₀ "Fullerene-60": A Challenge for Laser Spectroscopy, Laser Spectroscopy VIII, Proceedings of the Eighth International Conference,
501C	AS	June, 1987, pp. 250-253
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E. K. Hulsekall

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SG-1C	AR	Elser, et al., Magnetic behavior of icosahedral C ₆₀ , Physical Review A General Physics Third Series, Volume 36, Number 10, November 15, 1987, pp. 4579-4585
SG-1K	AS	Fowler, et al., The Leapfrog Principle: A Rule for Electron Counts of Carbon Clusters, J. Chem. Soc., Chem. Commun., 1987 pp. 1403-1405
		Almlöf, et al., Theoretical Methods and Results for Electronic Structure Calculations on Very Large Systems Carbon Clusters, ACS Symposium Series 353, 1987, pp. 35-48
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50K	AR	Schulman, et al., Symmetrical Clusters of Carbon Atoms: The C ₂₄ and C ₆₀ Molecules,
		Chemical Physics Letters, Volume 141, number 1,2, October 30, 1987 pp. 45-48
50K	AS	Wales, Closed-Shell Structures and the Building Game, Chemical Physics Letters, Volume 141,
		number 6, November 27, 1987, pp. 478-484
50K	AT	McKee, et al., Calculated Properties of C ₆₀ Isomers and Fragments, Journal of Molecular Structure (Theochem), 153 (1987) pp. 75-84

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Sheet 5 of 56

FORM PTO-1449
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SG-1C	AS	Bodvar, et al., Problems in the Structural Chemistry of Crystalline Carbon, Sov. Sci. Rev. B. Chem., Vo. 9, 1987, pp. 483-527
SG-1C	AT	Schmalz, et al., Elemental Carbon Cages, J. Am. Chem. Soc. 1988, 110, pp. 1113-1127

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		Rudzinski, et al., Computational Study of Relative Stabilities of $C_{60}^{(I_h)}$ and $C_{70}^{(D_{5h})}$ Gas-Phase Clusters, Thermochemical Acta, 125 (1988) pp. 155-162
SG/K	AT	Fowler, et al., Systematics of Bonding in non-icosahedral carbon clusters, Theor Chim Acta (1988) 73: pp. 1-26
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		Electronic Spectra of Buckminsterfullerene, Chemical Physics Letters, Vol. 144, No. 1,
	AS	February 12, 1988, pp. 31-36
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W. Schubert

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SG-1	AR	Aihara, et al., Spherical Aromaticity of Buckminsterfullerene, Bull. Chem. Soc. Jpn. 61, (1988) pp. 2657-2659
SG-1C	AS	Stanton, et al., Normal Vibrational Modes of Buckminsterfullerene, J. Phys. Chem., 1988, 92, pp. 2141-2145
SG-1C	AT	Balasubramanian, et al., Computer Generation of Spectra of Graphs: Applications to C ₆₀ Clusters and Other Systems, Journal of Computational Chemistry, Vol. 9, No. 4, (1988) pp. 406-415

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Kelvinkirk

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Sheet 9 of 56

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SG-1C	AR	Wu, et al., Vibrational Motions of Buckminsterfullerene, Chemical Physical Letters, Volume 137, number 3, June 12, 1987 pp. 291-294
SG-1C	AS	Slanina, et al., C ₆₀ (g), C ₇₀ (g), Saturated Carbon Vapour and Increase of Cluster Populations with Temperature: A Combined Aml Quantum-Chemical and Statistical-Mechanical Study, Collection Czechoslovak Chem. Commun. Volume 52, (1987) pp. 2831-2839
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Kelvin Hall

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Donald R. Huffman, et al.FILING DATE
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SG11	AR	Shibuya, et al., Two Icosahedral Structures for the C ₆₀ Cluster, Chemical Physics Letters, Volume 137, Number 1, May 29, 1987, pp. 13-16
SG11	AS	Brown, High Symmetries in Quantum Chemistry, Chemical Physics Letters, Volume 136, Number 2, May 1, 1987, pp. 128-133
SG11	AT	Luthi, et al., Ab Initio Studies on the Thermodynamic Stability of the Icosahedral C ₆₀ Molecule "Buckminsterfullerene", Chemical Physics Letters, Vol. 135, Number 4,5, April 10, 1987 pp. 357-360

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SG-K	AR	Scott, et al., Benzene Ring Contractions at High Temperatures, Evidence from the Thermal
		Interconversions of Aceanthrylene, Acophenanthrylene, and Fluoranthene, J. Am. Chem. Soc.
	AS	1987, 109, pp. 5461-5465
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		Number 9, September 15, 1987, pp. 5010-5015

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SG-1	AR	Laszlo, et al., On the Geometrical Structure and UV Spectrum of the Truncated Icosahedral C ₆₀ Molecule, Chemical Physics Letters, Volume 136, number 5, May 15, 1987, pp. 418-422
		Elser, et al., Icosahedral C ₆₀ :an aromatic molecule with a vanishingly small ring current magnetic susceptibility, Nature Vol. 325, February 26, 1987, pp. 792-794
SG-1	AS	Coulangeau, et al., Calculs de Proprietes Electroniques et des Frequences Normales de Vibration D'Aggregats Carbones Formant Des Polyedres Reguliers et Semi-Reguliers, Journal de Chimie Physique, 1987, 84, n° 7-8
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SG/1C	AR	Fowler, How Unusual is C ₆₀ ? Magic Numbers for Carbon Clusters, Chemical Physics Letters, Volume 131, number 6, November 21, 1986, pp. 444-450
SG/1K	AS	Harter, et al., Rovibrational Spectral Fine Structure of Icosahedral Molecules, Chemical Physics Letters, Volume 132, number 4,5, December 19, 1986, pp. 387-392
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	AS	Rosen, et al., Electronic structure of spheroidal metal containing carbon shells: study of the LaC ₆₀ and C ₆₀ clusters and their ions within the local density approximation,
	AT	Z. Phys. D-Atoms, Molecules and Clusters, pp. 387-390, 1989

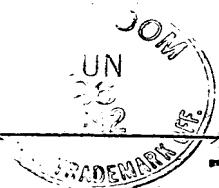
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8/17/92

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APPLICANT

Donald R. Huffman, et al.

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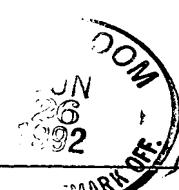
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D. Huffman

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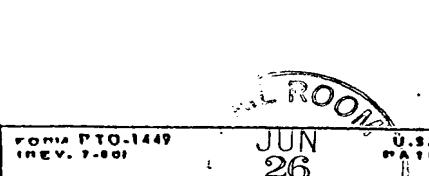
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D. Shultz

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APPLICANT

Donald R. Huffman, et al.

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Sheet 39 of 56

SERIAL NO.

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Donald R. Huffman, et al.

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Donald R. Huffman, et al.

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Donald R. Huffman; et al.

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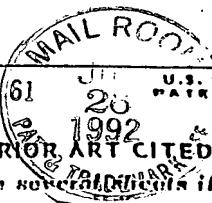
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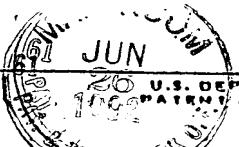
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Huffman

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ATTY. DOCKET NO.

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Donald R. Huffman, et al.

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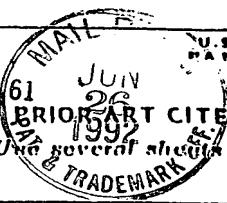
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D. Huffman

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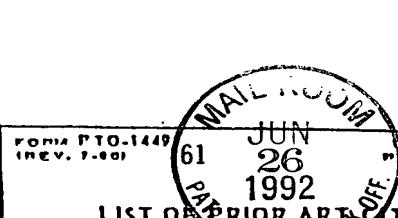
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Donald R. Huffman

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<i>SGC</i>	AT	Howard et al., Fullerenes C ₆₀ and C ₇₀ IN FLAMES, <i>Letters to Nature</i> , Volume 352, July 11, 1992, pp. 139-141

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M. Malinich

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